REDSTONE ESTATE STAGE 21A

Level One Report

Winslow Constructors Pty Ltd

P242081

8th May 2025

Pearce Geotech Pty Ltd ABN 96 155 312 879
23 Nobility Street, Moolap, VIC 3221 Australia
Ph: 03 5248 7887

8th May 2025

Winslow Constructors Pty Ltd
Level 1, 6 English Street
Essendon Fields, VIC, 3041

Attention: Mohamed Ibrahim

Dear Mohamed

RE: Redstone Estate Stage 21A

Level 1 Compaction Control

This letter presents a report by Pearce Geotech Pty Ltd (PG) on Level 1 Testing Services undertaken during the construction of fill at Redstone Estate Stage 21A. One electronic copy provided.

Please do not hesitate to contact the undersigned should there be any queries regarding this report.

For and on behalf of Pearce Geotech Pty Ltd

Regards

Mitch Francis

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The leading provider of construction material testing in Australia

CONTENTS

Appendices:

1 INTRODUCTION

This report presents the results of compaction control and laboratory testing services provided by Pearce Geotech Pty Ltd (PG) during the construction of fill at Redstone Estate Stage 21A.

PG was engaged by Winslow Constructors Pty Ltd to provide Level 1 testing services for the duration of these works in accordance with the specification supplied. The work was commissioned by Mr Mohamed Ibrahim of Winslow Constructors.

Level 1 testing, as defined in AS3798-2007 “Guidelines on Earthworks for Commercial and Residential Development”, provides for full-time inspection of the construction of controlled fill and compaction testing in accordance with AS1289 “Methods of Testing Soils for Engineering Purposes”. The Level 1 testing was undertaken by technicians from PG on the 20th September 2024.

2 SCOPE OF WORK

2.1 Area of Work

PG provided Level 1 testing and supervision of the construction filling placed. Material selection and condition, as well as compaction testing, were conducted during the construction of this fill.

This report does not include fill other than where mentioned in this report or any other fill that may be placed during this period or subsequent periods at or surrounding the subject site.

2.2 Placement Specification

While no earthworks specification was supplied, the fill placement and testing requirements for the structural fill were derived from AS 3798 “Guidelines on earthworks for commercial and residential developments” – Table 5.1, with the minimum density ratio as item Two (2) below;

TABLE 5.1

MINIMUM RELATIVE COMPACTION

Item	Application	Minimum relative compaction, %	
		Minimum density ratio (at standard compactive effort) (Cohesive soils) (see Note 1)	Minimum density index (Cohesionless soils) (see Note 2)
1	Residential—lot, fill, house, sites	95 (see Note 3)	70
2	Commercial—fills to support minor loadings, including floor loadings of up to 20 kPa and isolated pad or strip footings to 100 kPa	98 (see Note 4)	75
3	Fill to support pavements (see Note 5)		
	(a) General fill	95	70
	(b) Subgrade (to a depth of 0.3 m)	98	75

3 CONSTRUCTION PLANT

The following construction plant was used on site as required:

- 1 x Excavator
- 1 x Grader
- 1 x Pad Foot Roller
- 1 x Water Cart
- Dump Trucks as required

4 INSPECTION AND TESTING

4.1 Construction Materials

Clay was used as fill for this project.

Fill material was sourced from:

- Onsite Cuts

All material was tested for compliance, spread and watered to achieve the specified density and moisture specification.

4.2 Fill Placement

Initial site inspection showed fill areas as per the attached site plan. These areas were consecutively stripped of all deleterious silty topsoil, organic matter and existing fill down to a Silty Clay. These areas were then compacted with a smooth drum roller and proof rolled with a loaded dump truck.

Compaction tests and a proof roll were conducted on each tested layer of compacted fill to ensure compliance with the specification and samples of the fill material were tested in PG's NATA accredited laboratory (Accreditation Number 18877) to determine the Hilf density ratio and moisture ratio of the material. In total 7 field density tests, 7 Hilf rapid compaction tests and 7 moisture contents were conducted.

Control Fill material was placed by dump truck, spread by grader, simultaneously water conditioned wherever required and compacted. Where the material appeared too wet, dry soil was mixed in and processed to a homogenous state.

4.2.1 Test Summary

Field No.	Date	Location	Layer	Min. Ratio [%]	Density Ratio [%]
24-31199A	20/9/2024	Lot 2106	Lift 1	95% Std	100
24-31199B	20/9/2024	Lot 2132	Lift 1	95% Std	96
24-31199C	20/9/2024	Lot 2130	Lift 1	95% Std	95.5
24-31199D	20/9/2024	Lot 2128	Lift 1	95% Std	96.5
24-31199E	20/9/2024	Lot 2125	Lift 1	95% Std	99
24-31199F	20/9/2024	Lot 2120	Lift 1	95% Std	97
24-31199G	20/9/2024	Lot 2122	Lift 1	95% Std	97

5 STATEMENT OF COMPLIANCE

PG personnel have provided Level 1 inspection and testing services during construction of the fill at Redstone Estate Stage 21A. A technician from PG was on site on a fulltime basis during fill placement and observed the construction techniques adopted.

Based on these observations made by PG personnel and the results of field and laboratory tests, we consider that the fill has been placed in accordance with the intent of the specification.

For and on behalf of Pearce Geotech Pty Ltd

Regards

Anthony Green
Senior Technician

Pearce Geotech

Appendix A

Test Results

Material Test Report

Pearce Geotech Pty Ltd
23 Nobility Street Moolap VIC 3221
Phone: (03) 5248 7887
Email: tony@pearcegeotech.com.au

Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Anthony Green
Senior Technician
NATA Accredited Laboratory Number: 18877

Report Number: **P242081-1**
Issue Number: 1
Date Issued: 07/10/2024
Client: Winslow Constructors Pty Ltd

Contact: Mohamed Ibrahim
Project Number: P242081
Project Name: Redstone - Stage 21A
Project Location: Eaglehawk Street, Sunbury
Work Request: 31199
Date Sampled: 20/09/2024
Dates Tested: 25/09/2024 - 02/10/2024
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Remarks: TRN 16267
Specification: 95% Standard
Location: TRN 16267
Material: General Fill
Material Source: Site Won

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1				
Sample Number	24-31199A	24-31199B	24-31199C	24-31199D
Date Tested	20/09/2024	20/09/2024	20/09/2024	20/09/2024
Time Tested	10:30	10:37	10:45	10:50
Test Request #/Location	Lot 2106	Lot 2132	Lot 2130	Lot 2128
Layer / Reduced Level	Lift 1	Lift 1	Lift 1	Lift 1
Thickness of Layer (mm)	200	200	200	200
Soil Description	General Fill	General Fill	General Fill	General Fill
Test Depth (mm)	175	175	175	175
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**	**
Field Wet Density (FWD) t/m^3	1.82	1.74	1.74	1.75
Field Moisture Content %	21.4	18.3	20.3	20.7
Field Dry Density (FDD) t/m^3	1.50	1.47	1.44	1.45
Peak Converted Wet Density t/m^3	1.82	1.81	1.82	1.81
Adjusted Peak Converted Wet Density t/m^3	**	**	**	**
Moisture Variation (Wv) %	2.0	2.0	2.0	2.0
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	**100.0**	**96.0**	**95.5**	**96.5**
Compaction Method	**Standard**	**Standard**	**Standard**	**Standard**
Report Remarks	**	**	**	**

Moisture Variation Note:
Positive values = test is dry of OMC
Negative values = test is wet of OMC

Material Test Report

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Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1				
Sample Number	24-31199E	24-31199F	24-31199G	
Date Tested	20/09/2024	20/09/2024	20/09/2024	
Time Tested	10:56	11:04	11:10	
Test Request #/Location	Lot 2125	Lot 2120	Lot 2122	
Layer / Reduced Level	Lift 1	Lift 1	Lift 1	
Thickness of Layer (mm)	200	200	200	
Soil Description	General Fill	General Fill	General Fill	
Test Depth (mm)	175	175	175	
Sieve used to determine oversize (mm)	19.0	19.0	19.0	
Percentage of Wet Oversize (%)	**	**	**	
Field Wet Density (FWD) t/m^3	1.81	1.76	1.76	
Field Moisture Content %	18.4	18.7	19.5	
Field Dry Density (FDD) t/m^3	1.53	1.49	1.47	
Peak Converted Wet Density t/m^3	1.83	1.82	1.81	
Adjusted Peak Converted Wet Density t/m^3	**	**	**	
Moisture Variation (Wv) %	2.0	2.0	2.0	
Adjusted Moisture Variation %	**	**	**	
Hilf Density Ratio (%)	**99.0**	**97.0**	**97.0**	
Compaction Method	**Standard**	**Standard**	**Standard**	
Report Remarks	**	**	**	

Moisture Variation Note:
Positive values = test is dry of OMC
Negative values = test is wet of OMC

WARNING

BEWARE OF UNDERGROUND/OVERHEAD SERVICES

THE LOCATION OF SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. SPECIAL CONSIDERATION SHOULD BE GIVEN TO CONSTRUCTION PROCEDURES UNDER OVERHEAD ELECTRICITY TRANSMISSION LINES.

MGA 2020
ZONE 55

FOR CONTINUATION REFER TO 310827CR201

FUTURE STAGE 22A

FUTURE STAGE 21B

FUTURE STAGE 21B

FUTURE STAGE 22A

EXISTING STAGE 5B

FUTURE STAGE 15

60 REDSTONE HILL ROAD (BY OTHERS)

REDSTONE HILL ROAD

SPINE BILL STREET

AKINI ROAD

BOOBOOK ROAD

SPECKLE CIRCUIT

CRIMSON LANE

RESERVE NO 10

RESERVE

EXISTING EDGE OF GRAVEL ROAD

INSTALL RAPTOR POLE PROTECT FOR AROUND EXISTING POLE

TRANSITION TO EXISTING GRAVEL ROAD

CONCRETE EDGE STRIP & AG DRAIN TO BE PROVIDED

PROVIDE 300ø STUB

ELECTRICAL KIOSK

PROVIDE BOLLARDS AT 3m SPACING WITH CRIMP CABLE

TEMPORARY CATCH DRAINS TO BE CONSTRUCTED WITH ROCK BEACHING BUNDS AT 30m INTERVALS

PROVIDE 3m 225ø STUB

SIGNAGE, CONCRETE EDGE STRIP & AG DRAIN TO BE PROVIDED AS PER LIMIT OF WORKS DETAIL

BLANK OFF ENDPIPE WITH TIMBER

EXISTING FENCE AND ASSOCIATED GATES TO BE REMOVED AS REQUIRED

REMOVE TEMPORARY EDGESTRIP, TURNAROUND AREA, SIGNS AND MATCH TO EXISTING

EXISTING COMMS TO BE RELOCATED

PROVIDE 1.8m HIGH TIMBER PALING FENCE FOR ELECTRICAL KIOSK

PROVIDE BOLLARDS AT 1m SETBACK FROM THE ROAD RESERVE AS PER HCC STD DWD SLD-2.1

PROVIDE 1.2m HIGH TIMBER PALING FENCE FOR FIRST 5m FROM FRONT BOUNDARY AND THEN TRANSITION TO 1.8m HIGH TIMBER PALING FENCE

PROVIDE 2 x REMOVABLE BOLLARDS AT 1m SETBACK FROM THE ROAD RESERVE AS PER HCC STD DWD SLD-2.3A

EXISTING FENCE AND ASSOCIATED GATES TO BE REMOVED AS REQUIRED

PROVIDE 1.8m HIGH TIMBER PALING FENCE AT BACK OF LOTS ABUTTING 60 REDSTONE HILL ROAD

INSTALL RAPTOR POLE PROTECTOR AROUND EXISTING POLE

EXISTING EDGE OF GRAVEL ROAD

CONCRETE EDGE STRIP & AG DRAIN TO BE PROVIDED

TRANSITION TO EXISTING GRAVEL ROAD

FOR CONTINUATION REFER TO THE RIGHT

FOR CONTINUATION REFER TO THE LEFT

BLANK OFF ENDPIPE WITH TIMBER

PROVIDE 10.5R TEMPORARY TURNING AREA AS PER EDCM FIGURE 10.16.1 200mm MIN DEPTH COMPACTED CRUSHED ROCK, CONCRETE EDGE STRIP AS SPECIFIED WITH AG DRAIN, INCLUDING SUITABLE VEHICLE EXCLUSION BOLLARDS / FENCING WITH "NO ROAD" & CHEVRON SIGN AS PER H.C.C. STANDARD DRAWING SD4.07. CONTRACTOR TO ENSURE TURNING HEAD IS FREE DRAINING.

BLANK OFF ENDPIPE WITH TIMBER

Rev	Amendments	Approved	Date
1	PIT 6 & REDSTONE HILL ROAD SERVICES AMENDED	L.T	23/10/24
0	ISSUED FOR CONSTRUCTION	M.R	20/09/24
K	REDSTONE HILL ROAD FOOTPATH AND LOTS 2116-2118 DRAINAGE AMENDED	M.R	05/09/24
J	DRIVEWAY AND BOLLARDS ADDED	M.R	22/05/24
I	LOTS 2107-2109 LEVELS AMENDED	M.R	13/05/24
H	LOTS 2116-2119 GRADING AMENDED AND REDSTONE HILL ROAD BATTER AMENDED	M.R	09/04/24
G	REDSTONE HILL ROAD PATH AMENDED	M.R	23/02/24
F	DRIVEWAYS, LOTS 2110-2115 AMENDED AND NOTE ADDED	M.R	20/12/23

Scale
H 1:500
SCALE @ A1
0 5 10 15 20 25

spiire
L6 414 LA TROBE STREET PO BOX 16084 MELBOURNE
VICTORIA 8007 AUSTRALIA T 61 3 9993 7888
spiire.com.au ABN 55 050 029 635

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Designed	Checked
L. TRAN	W. ONG
Authorised	Date
M. RANJANAN	26/07/23

REDSTONE ESTATE STAGE 21A

ROAD AND DRAINAGE
FACE PLAN - SHEET 1
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION

Drg No 310827CR200
Rev 1

file name 310827CR200.dwt layout name CR200 plotted by Winnie Ong
file location G:\31\310827\Civil\ACAD plot date 10/01/2025 2:33 PM Sheet 2 of 25 Sheets